

REMARKS

This amendment is responsive to the Office Action of June 4, 2007. Reconsideration and allowance of claims 1-19 are requested.

The Office Action

Claims 1-9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,256,969 to Miyajima, et al., in view of U.S. Patent No. 6,294,972 to Jesmanowicz, et al.

The References of Record

Miyajima discloses a gradient coil assembly which includes a body portion 24 of an open structural shape, such as hexagonal, square, triangular, etc., an inner layer 28, and outer layer 26. The outer layer is actually three layers: Two sheets of 0.5 to 1 mm of stainless steel 33, 34 bonded together with a viscoelastic adhesive material 35 (col. 8, lines 3-15).

To avoid eddy current influences, the metal sheet can be cut or divided (col. 9, lines 12-16) or may have spiral grooves 42 with increased electrical resistance (col. 9, lines 19-25).

Jesmanowicz also illustrates a gradient coil assembly. However, rather than addressing a structural element or a portion of the gradient system, the Examiner refers to the RF shield assembly 26. It is submitted that the structure of the RF shield would not teach or motivate one of ordinary skill in the art how to redesign the structural elements supporting a gradient coil assembly. As those of skill in the art are aware, gradient coils and RF coils have very different design criteria to accommodate such differences as the magnitude of current carried, the frequency of carried current, the forces to which they are subject, and the like.

The Claims Distinguish Patentably Over the References of Record

Claim 8 calls for at least some of the stainless steel rods to include cooling channels for guiding a cooling medium. In Miyajima, there is no suggestion that the 0.5 to 1 mm thick stainless steel sheet or foil somehow define cooling

passages. Analogously, there is no suggestion that the foil segments 56, 58 of the RF shield 26 of Jesmanowicz include cooling channels.

Accordingly, it is submitted that claim 8 and claims 3-7 and 9 dependent therefrom distinguish patentably and unobviously over the references of record.

Antecedent basis for claim 10 is found in previously examined claim 4 and Figure 3. Claim 10 calls for the tubular support body to include a pair of stainless steel end rings and a plurality of stainless steel rods extending axially and connected with the end rings. Although the foil strips 56, 58 of Jesmanowicz extend axially, there is no suggestion that they be connected by end rings. Moreover, the foil strips of Jesmanowicz are not a structural element that supports the gradient coils. Rather, the gradient coil assembly 25 shown in FIGURE 3 of Jesmanowicz includes a cylinder with gradient coils on its exterior and interior. The RF shield 26 of Jesmanowicz fits inside the interior gradient coil. Mayajima has analogous deficiencies which are not cured by Jesmanowicz.

Accordingly, it is submitted that claim 10, and claims 11-14 dependent therefrom, distinguish patentably and unobviously over the references of record.

Antecedent basis for claim 15 is found in previously examined original claim 9. Claim 15 calls for the gradient coil system tubular body including at least one stainless steel element having passages configured to receive pieces of shim iron. There is no suggestion in Mayajima of defining passages in the 0.5 to 1 mm thick sheets or foil, much less passages configured to receive shim iron. The foil layers 56, 58 of Jesmanowicz fail to cure this shortcoming of Mayajima. Again, the foil layers 56, 58 of Jesmanowicz are thin and not adapted to receive passages. Moreover, the foil strips 56, 58 of Jesmanowicz are part of an RF shield. It is submitted, that there is no motivation to provide shim iron into an RF shield.

Accordingly, it is submitted that claim 15, and claims 2 and 16-19 dependent therefrom, distinguish patentably and unobviously over the references of record.

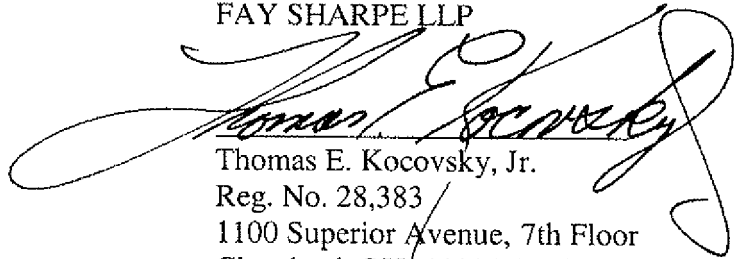
CONCLUSION

For the reasons set forth above, it is submitted that claims 2-19 distinguish patentably over the references of record and meet all statutory requirements. An early allowance of all claims is requested.

In the event the Examiner considers personal contact advantageous to the disposition of this case, he is requested to telephone Thomas Kocovsky at (216) 861-5582.

Respectfully submitted,

FAY SHARPE LLP

A large, stylized handwritten signature in black ink, likely belonging to Thomas E. Kocovsky, Jr., is written over the printed name and address.

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